

REMARKS

Applicant notes with appreciation the indicated allowability of claims 1-6, 11-16 and 25-30. Applicant acknowledges with appreciation the indicated allowability of claims 8, 18 and 22-24 which would be allowed if written in independent form.

In view of the following comments, it is believed that the rejected claims are also allowable as filed. Claims 8, 18 and 22-24 will be amended later if the Examiner maintains the rejection of the claims.

The basis for the rejection of claims 7, 9, 10, 17, 19, 20 and 21 is that they are unpatentable over Cunningham because, the Examiner believes that Cunningham discloses a “coining” operation. This rejection is respectfully traversed. It is submitted that Cunningham does not disclose a coining operation as contended. Coining can be defined as the permanent deformation of a material from plastic flow of that material. In Mark’s Standard Handbook For Mechanical Engineers, 10th Edition at 13-20 defines coining as forcing metal to flow to fill a shape. Coining is the process used to form coins.

It is pointed out that Cunningham specifically avoids coining apparently because “coining” would result in premature failure of the valve. The present invention effects the seal between the two valve components by coining prior to its use by over pressuring the valve significantly over its operating pressure. There is no suggestion in the written description of Cunningham that would suggest that coining occurs and in fact Cunningham criticizes the utilization of permanent deformation in the mating sealing areas of the valve. See for example, column 1 starting at line 32 where it is stated, “The drawbacks of the design shown in Fig. 1A is that at a higher pressure, force generated on the contact faces is great enough to permanently yield/deform them. An effective “fit” is created between the mating parts as a result of this

process (typically referred to as “coining”) and a very good “high” pressure seal is also achieved but the contact area is also increased”. Cunningham goes on to criticize the prior art in column 2 starting at line 4, where it is stated “The soft seats shown in Figs. 1B and 1C are “resilient” in the sense that so long as they are not deformed beyond certain material-specific limits (as ensured by the shouldering of the metal contact faces) they will return substantially to its pre-deformed geometry. This gives these check valves the ability to provide repeatable low pressure sealing.” Cunningham then goes on to differentiate his invention from the prior art. In column 2 starting at line 25 where he states, “The present invention is directed to a metal sealing structure for a check valve in which a compliant metal seal ring or element is integral or separately secured to a check valve body in such a way that it can elastically deform upon contact with the check valve poppet.” It is thus submitted that Cunningham teaches directly opposite to the present invention in that coining is to be avoided. Thus, Cunningham cannot support the rejection of the claims as set forth in the Office Action. Additionally, in a reading of the description of the form of the valve shown in Fig. 7 of Cunningham (the apparent form the Examiner refers to), there is nothing in the description of this structure that would indicate coining.

It is thus submitted that the rejection of the claims over Cunningham as teaching or suggesting a coining operation is in error. It is respectfully requested that this rejection be reconsidered and withdrawn.

Applicants' request for extension of time under 37 CFR 1.136(a) as well as Applicants' petition fee are enclosed herewith and filed simultaneously with this response.

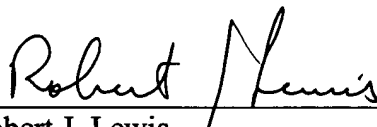
If any issue regarding the allowability of any of the pending claims in the present application could be readily resolved, or if other action could be taken to further advance this

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Amendment A

application such as an Examiner's amendment, or if the Examiner should have any questions regarding the present amendment, it is respectfully requested that the Examiner please telephone Applicant's undersigned attorney in this regard.

Respectfully submitted,

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